

10/568414

SEQUENCE LISTING

IAP20 Rec'd PGT/PTO 14 FEB 2006

```

<110>  Aasly, Jan O
        Wszolek, Zbigniew K
        Farrer, Matthew J

<120>  Polynucleotide

<130>  U1913

<150>  NO20045612
<151>  2004-12-23

<160>  2

<170>  PatentIn version 3.1

<210>  1
<211>  2527
<212>  PRT
<213>  Homo sapiens

<220>
<221>  MISC FEATURE
<222>  (2019)..(2019)
<223>  X may be any amino acid except glycine.

<300>
<308>  Genbank / AY792511
<309>  2004-11-15
<313>  (1)..(2527)

<400>  1

Met Ala Ser Gly Ser Cys Gln Gly Cys Glu Glu Asp Glu Glu Thr Leu
1          5          10          15

Lys Lys Leu Ile Val Arg Leu Asn Asn Val Gln Glu Gly Lys Gln Ile
20          25          30

Glu Thr Leu Val Gln Ile Leu Glu Asp Leu Leu Val Phe Thr Tyr Ser
35          40          45

Glu His Ala Ser Lys Leu Phe Gln Gly Lys Asn Ile His Val Pro Leu
50          55          60

Leu Ile Val Leu Asp Ser Tyr Met Arg Val Ala Ser Val Gln Gln Val
65          70          75          80

Gly Trp Ser Leu Leu Cys Lys Leu Ile Glu Val Cys Pro Gly Thr Met
85          90          95

Gln Ser Leu Met Gly Pro Gln Asp Val Gly Asn Asp Trp Glu Val Leu
100         105         110

```

Gly Val His Gln Leu Ile Leu Lys Met Leu Thr Val His Asn Ala Ser  
 115 120 125

Val Asn Leu Ser Val Ile Gly Leu Lys Thr Leu Asp Leu Leu Leu Thr  
 130 135 140

Ser Gly Lys Ile Thr Leu Leu Ile Leu Asp Glu Glu Ser Asp Ile Phe  
 145 150 155 160

Met Leu Ile Phe Asp Ala Met His Ser Phe Pro Ala Asn Asp Glu Val  
 165 170 175

Gln Lys Leu Gly Cys Lys Ala Leu His Val Leu Phe Glu Arg Val Ser  
 180 185 190

Glu Glu Gln Leu Thr Glu Phe Val Glu Asn Lys Asp Tyr Met Ile Leu  
 195 200 205

Leu Ser Ala Ser Thr Asn Phe Lys Asp Glu Glu Glu Ile Val Leu His  
 210 215 220

Val Leu His Cys Leu His Ser Leu Ala Ile Pro Cys Asn Asn Val Glu  
 225 230 235 240

Val Leu Met Ser Gly Asn Val Arg Cys Tyr Asn Ile Val Val Glu Ala  
 245 250 255

Met Lys Ala Phe Pro Met Ser Glu Arg Ile Gln Glu Val Ser Cys Cys  
 260 265 270

Leu Leu His Arg Leu Thr Leu Gly Asn Phe Phe Asn Ile Leu Val Leu  
 275 280 285

Asn Glu Val His Glu Phe Val Val Lys Ala Val Gln Gln Tyr Pro Glu  
 290 295 300

Asn Ala Ala Leu Gln Ile Ser Ala Leu Ser Cys Leu Ala Leu Leu Thr  
 305 310 315 320

Glu Thr Ile Phe Leu Asn Gln Asp Leu Glu Glu Lys Asn Glu Asn Gln  
 325 330 335

Glu Asn Asp Asp Glu Gly Glu Glu Asp Lys Leu Phe Trp Leu Glu Ala  
 340 345 350

Cys Tyr Lys Ala Leu Thr Trp His Arg Lys Asn Lys His Val Gln Glu  
 355 360 365

Ala Ala Cys Trp Ala Leu Asn Asn Leu Leu Met Tyr Gln Asn Ser Leu  
 370 375 380

His Glu Lys Ile Gly Asp Glu Asp Gly His Phe Pro Ala His Arg Glu  
 385 390 395 400

Val Met Leu Ser Met Leu Met His Ser Ser Ser Lys Glu Val Phe Gln  
 405 410 415

Ala Ser Ala Asn Ala Leu Ser Thr Leu Leu Glu Gln Asn Val Asn Phe  
 420 425 430

Arg Lys Ile Leu Leu Ser Lys Gly Ile His Leu Asn Val Leu Glu Leu  
 435 440 445

Met Gln Lys His Ile His Ser Pro Glu Val Ala Glu Ser Gly Cys Lys  
 450 455 460

Met Leu Asn His Leu Phe Glu Gly Ser Asn Thr Ser Leu Asp Ile Met  
 465 470 475 480

Ala Ala Val Val Pro Lys Ile Leu Thr Val Met Lys Arg His Glu Thr  
 485 490 495

Ser Leu Pro Val Gln Leu Glu Ala Leu Arg Ala Ile Leu His Phe Ile  
 500 505 510

Val Pro Gly Met Pro Glu Glu Ser Arg Glu Asp Thr Glu Phe His His  
 515 520 525

Lys Leu Asn Met Val Lys Lys Gln Cys Phe Lys Asn Asp Ile His Lys  
 530 535 540

Leu Val Leu Ala Ala Leu Asn Arg Phe Ile Gly Asn Pro Gly Ile Gln  
 545 550 555 560

Lys Cys Gly Leu Lys Val Ile Ser Ser Ile Val His Phe Pro Asp Ala  
 565 570 575

Leu Glu Met Leu Ser Leu Glu Gly Ala Met Asp Ser Val Leu His Thr  
 580 585 590

Leu Gln Met Tyr Pro Asp Asp Gln Glu Ile Gln Cys Leu Gly Leu Ser  
 595 600 605

Leu Ile Gly Tyr Leu Ile Thr Lys Lys Asn Val Phe Ile Gly Thr Gly  
 610 615 620

His Leu Leu Ala Lys Ile Leu Val Ser Ser Leu Tyr Arg Phe Lys Asp  
 625 630 635 640

Val Ala Glu Ile Gln Thr Lys Gly Phe Gln Thr Ile Leu Ala Ile Leu  
 645 650 655

Lys Leu Ser Ala Ser Phe Ser Lys Leu Leu Val His His Ser Phe Asp  
 660 665 670

Leu Val Ile Phe His Gln Met Ser Ser Asn Ile Met Glu Gln Lys Asp  
 675 680 685

Gln Gln Phe Leu Asn Leu Cys Cys Lys Cys Phe Ala Lys Val Ala Met  
 690 695 700

Asp Asp Tyr Leu Lys Asn Val Met Leu Glu Arg Ala Cys Asp Gln Asn  
 705 710 715 720

Asn Ser Ile Met Val Glu Cys Leu Leu Leu Gly Ala Asp Ala Asn  
 725 730 735

Gln Ala Lys Glu Gly Ser Ser Leu Ile Cys Gln Val Cys Glu Lys Glu  
 740 745 750

Ser Ser Pro Lys Leu Val Glu Leu Leu Leu Asn Ser Gly Ser Arg Glu  
 755 760 765

Gln Asp Val Arg Lys Ala Leu Thr Ile Ser Ile Gly Lys Gly Asp Ser  
 770 775 780

Gln Ile Ile Ser Leu Leu Leu Arg Arg Leu Ala Leu Asp Val Ala Asn  
 785 790 795 800

Asn Ser Ile Cys Leu Gly Gly Phe Cys Ile Gly Lys Val Glu Pro Ser  
 805 810 815

Trp Leu Gly Pro Leu Phe Pro Asp Lys Thr Ser Asn Leu Arg Lys Gln  
 820 825 830

Thr Asn Ile Ala Ser Thr Leu Ala Arg Met Val Ile Arg Tyr Gln Met

835	840	845
Lys Ser Ala Val Glu Glu Gly Thr Ala Ser Gly Ser Asp Gly Asn Phe 850 855 860		
Ser Glu Asp Val Leu Ser Lys Phe Asp Glu Trp Thr Phe Ile Pro Asp 865 870 875 880		
Ser Ser Met Asp Ser Val Phe Ala Gln Ser Asp Asp Leu Asp Ser Glu 885 890 895		
Gly Ser Glu Gly Ser Phe Leu Val Lys Lys Lys Ser Asn Ser Ile Ser 900 905 910		
Val Gly Glu Phe Tyr Arg Asp Ala Val Leu Gln Arg Cys Ser Pro Asn 915 920 925		
Leu Gln Arg His Ser Asn Ser Leu Gly Pro Ile Phe Asp His Glu Asp 930 935 940		
Leu Leu Lys Arg Lys Arg Lys Ile Leu Ser Ser Asp Asp Ser Leu Arg 945 950 955 960		
Ser Ser Lys Leu Gln Ser His Met Arg His Ser Asp Ser Ile Ser Ser 965 970 975		
Leu Ala Ser Glu Arg Glu Tyr Ile Thr Ser Leu Asp Leu Ser Ala Asn 980 985 990		
Glu Leu Arg Asp Ile Asp Ala Leu Ser Gln Lys Cys Cys Ile Ser Val 995 1000 1005		
His Leu Glu His Leu Glu Lys Leu Glu Leu His Gln Asn Ala Leu 1010 1015 1020		
Thr Ser Phe Pro Gln Gln Leu Cys Glu Thr Leu Lys Ser Leu Thr 1025 1030 1035		
His Leu Asp Leu His Ser Asn Lys Phe Thr Ser Phe Pro Ser Tyr 1040 1045 1050		
Leu Leu Lys Met Ser Cys Ile Ala Asn Leu Asp Val Ser Arg Asn 1055 1060 1065		
Asp Ile Gly Pro Ser Val Val Leu Asp Pro Thr Val Lys Cys Pro 1070 1075 1080		

Thr Leu	Lys Gln Phe Asn Leu	Ser Tyr Asn Gln Leu	Ser Phe Val
1085	1090	1095	
Pro Glu	Asn Leu Thr Asp Val	Val Glu Lys Leu Glu	Gln Leu Ile
1100	1105	1110	
Leu Glu	Gly Asn Lys Ile Ser	Gly Ile Cys Ser Pro	Leu Arg Leu
1115	1120	1125	
Lys Glu	Leu Lys Ile Leu Asn	Leu Ser Lys Asn His	Ile Ser Ser
1130	1135	1140	
Leu Ser	Glu Asn Phe Leu Glu	Ala Cys Pro Lys Val	Glu Ser Phe
1145	1150	1155	
Ser Ala	Arg Met Asn Phe Leu	Ala Ala Met Pro Phe	Leu Pro Pro
1160	1165	1170	
Ser Met	Thr Ile Leu Lys Leu	Ser Gln Asn Lys Phe	Ser Cys Ile
1175	1180	1185	
Pro Glu	Ala Ile Leu Asn Leu	Pro His Leu Arg Ser	Leu Asp Met
1190	1195	1200	
Ser Ser	Asn Asp Ile Gln Tyr	Leu Pro Gly Pro Ala	His Trp Lys
1205	1210	1215	
Ser Leu	Asn Leu Arg Glu Leu	Leu Phe Ser His Asn	Gln Ile Ser
1220	1225	1230	
Ile Leu	Asp Leu Ser Glu Lys	Ala Tyr Leu Trp Ser	Arg Val Glu
1235	1240	1245	
Lys Leu	His Leu Ser His Asn	Lys Leu Lys Glu Ile	Pro Pro Glu
1250	1255	1260	
Ile Gly	Cys Leu Glu Asn Leu	Thr Ser Leu Asp Val	Ser Tyr Asn
1265	1270	1275	
Leu Glu	Leu Arg Ser Phe Pro	Asn Glu Met Gly Lys	Leu Ser Lys
1280	1285	1290	
Ile Trp	Asp Leu Pro Leu Asp	Glu Leu His Leu Asn	Phe Asp Phe
1295	1300	1305	

Lys His	Ile Gly Cys Lys	Ala	Lys Asp Ile Ile	Arg	Phe Leu Gln
1310		1315		1320	
Gln Arg	Leu Lys Lys Ala	Val	Pro Tyr Asn Arg	Met	Lys Leu Met
1325		1330		1335	
Ile Val	Gly Asn Thr Gly	Ser	Gly Lys Thr Thr	Leu	Leu Gln Gln
1340		1345		1350	
Leu Met	Lys Thr Lys Lys	Ser	Asp Leu Gly Met	Gln	Ser Ala Thr
1355		1360		1365	
Val Gly	Ile Asp Val Lys	Asp	Trp Pro Ile Gln	Ile	Arg Asp Lys
1370		1375		1380	
Arg Lys	Arg Asp Leu Val	Leu	Asn Val Trp Asp	Phe	Ala Gly Arg
1385		1390		1395	
Glu Glu	Phe Tyr Ser Thr	His	Pro His Phe Met	Thr	Gln Arg Ala
1400		1405		1410	
Leu Tyr	Leu Ala Val Tyr	Asp	Leu Ser Lys Gly	Gln	Ala Glu Val
1415		1420		1425	
Asp Ala	Met Lys Pro Trp	Leu	Phe Asn Ile Lys	Ala	Arg Ala Ser
1430		1435		1440	
Ser Ser	Pro Val Ile Leu	Val	Gly Thr His Leu	Asp	Val Ser Asp
1445		1450		1455	
Glu Lys	Gln Arg Lys Ala	Cys	Met Ser Lys Ile	Thr	Lys Glu Leu
1460		1465		1470	
Leu Asn	Lys Arg Gly Phe	Pro	Ala Ile Arg Asp	Tyr	His Phe Val
1475		1480		1485	
Asn Ala	Thr Glu Glu Ser	Asp	Ala Leu Ala Lys	Leu	Arg Lys Thr
1490		1495		1500	
Ile Ile	Asn Glu Ser Leu	Asn	Phe Lys Ile Arg	Asp	Gln Leu Val
1505		1510		1515	
Val Gly	Gln Leu Ile Pro	Asp	Cys Tyr Val Glu	Leu	Glu Lys Ile
1520		1525		1530	





1760	1765	1770
Cys Ile Leu Leu Gly Gln Val	Val Asp His Ile Asp	Ser Leu Met
1775	1780	1785
Glu Glu Trp Phe Pro Gly Leu	Leu Glu Ile Asp Ile	Cys Gly Glu
1790	1795	1800
Gly Glu Thr Leu Leu Lys Lys	Trp Ala Leu Tyr Ser	Phe Asn Asp
1805	1810	1815
Gly Glu Glu His Gln Lys Ile	Leu Leu Asp Asp Leu	Met Lys Lys
1820	1825	1830
Ala Glu Glu Gly Asp Leu Leu	Val Asn Pro Asp Gln	Pro Arg Leu
1835	1840	1845
Thr Ile Pro Ile Ser Gln Ile	Ala Pro Asp Leu Ile	Leu Ala Asp
1850	1855	1860
Leu Pro Arg Asn Ile Met Leu	Asn Asn Asp Glu Leu	Glu Phe Glu
1865	1870	1875
Gln Ala Pro Glu Phe Leu Leu	Gly Asp Gly Ser Phe	Gly Ser Val
1880	1885	1890
Tyr Arg Ala Ala Tyr Glu Gly	Glu Glu Val Ala Val	Lys Ile Phe
1895	1900	1905
Asn Lys His Thr Ser Leu Arg	Leu Leu Arg Gln Glu	Leu Val Val
1910	1915	1920
Leu Cys His Leu His His Pro	Ser Leu Ile Ser Leu	Leu Ala Ala
1925	1930	1935
Gly Ile Arg Pro Arg Met Leu	Val Met Glu Leu Ala	Ser Lys Gly
1940	1945	1950
Ser Leu Asp Arg Leu Leu Gln	Gln Asp Lys Ala Ser	Leu Thr Arg
1955	1960	1965
Thr Leu Gln His Arg Ile Ala	Leu His Val Ala Asp	Gly Leu Arg
1970	1975	1980
Tyr Leu His Ser Ala Met Ile	Ile Tyr Arg Asp Leu	Lys Pro His
1985	1990	1995

Asn Val	Leu Leu Phe Thr Leu Tyr Pro Asn Ala Ala	Ile Ile Ala
2000	2005	2010
Lys Ile	Ala Asp Tyr Xaa Ile Ala Gln Tyr Cys Cys	Arg Met Gly
2015	2020	2025
Ile Lys	Thr Ser Glu Gly Thr Pro Gly Phe Arg Ala	Pro Glu Val
2030	2035	2040
Ala Arg	Gly Asn Val Ile Tyr Asn Gln Gln Ala Asp	Val Tyr Ser
2045	2050	2055
Phe Gly	Leu Leu Leu Tyr Asp Ile Leu Thr Thr Gly	Gly Arg Ile
2060	2065	2070
Val Glu	Gly Leu Lys Phe Pro Asn Glu Phe Asp Glu	Leu Glu Ile
2075	2080	2085
Gln Gly	Lys Leu Pro Asp Pro Val Lys Glu Tyr Gly	Cys Ala Pro
2090	2095	2100
Trp Pro	Met Val Glu Lys Leu Ile Lys Gln Cys Leu	Lys Glu Asn
2105	2110	2115
Pro Gln	Glu Arg Pro Thr Ser Ala Gln Val Phe Asp	Ile Leu Asn
2120	2125	2130
Ser Ala	Glu Leu Val Cys Leu Thr Arg Arg Ile Leu	Leu Pro Lys
2135	2140	2145
Asn Val	Ile Val Glu Cys Met Val Ala Thr His His	Asn Ser Arg
2150	2155	2160
Asn Ala	Ser Ile Trp Leu Gly Cys Gly His Thr Asp	Arg Gly Gln
2165	2170	2175
Leu Ser	Phe Leu Asp Leu Asn Thr Glu Gly Tyr Thr	Ser Glu Glu
2180	2185	2190
Val Ala	Asp Ser Arg Ile Leu Cys Leu Ala Leu Val	His Leu Pro
2195	2200	2205
Val Glu	Lys Glu Ser Trp Ile Val Ser Gly Thr Gln	Ser Gly Thr
2210	2215	2220

Leu	Leu	Val	Ile	Asn	Thr	Glu	Asp	Gly	Lys	Lys	Arg	His	Thr	Leu
2225						2230					2235			
Glu	Lys	Met	Thr	Asp	Ser	Val	Thr	Cys	Leu	Tyr	Cys	Asn	Ser	Phe
2240						2245					2250			
Ser	Lys	Gln	Ser	Lys	Gln	Lys	Asn	Phe	Leu	Leu	Val	Gly	Thr	Ala
2255						2260					2265			
Asp	Gly	Lys	Leu	Ala	Ile	Phe	Glu	Asp	Lys	Thr	Val	Lys	Leu	Lys
2270						2275					2280			
Gly	Ala	Ala	Pro	Leu	Lys	Ile	Leu	Asn	Ile	Gly	Asn	Val	Ser	Thr
2285						2290					2295			
Pro	Leu	Met	Cys	Leu	Ser	Glu	Ser	Thr	Asn	Ser	Thr	Glu	Arg	Asn
2300						2305					2310			
Val	Met	Trp	Gly	Gly	Cys	Gly	Thr	Lys	Ile	Phe	Ser	Phe	Ser	Asn
2315						2320					2325			
Asp	Phe	Thr	Ile	Gln	Lys	Leu	Ile	Glu	Thr	Arg	Thr	Ser	Gln	Leu
2330						2335					2340			
Phe	Ser	Tyr	Ala	Ala	Phe	Ser	Asp	Ser	Asn	Ile	Ile	Thr	Val	Val
2345						2350					2355			
Val	Asp	Thr	Ala	Leu	Tyr	Ile	Ala	Lys	Gln	Asn	Ser	Pro	Val	Val
2360						2365					2370			
Glu	Val	Trp	Asp	Lys	Lys	Thr	Glu	Lys	Leu	Cys	Gly	Leu	Ile	Asp
2375						2380					2385			
Cys	Val	His	Phe	Leu	Arg	Glu	Val	Met	Val	Lys	Glu	Asn	Lys	Glu
2390						2395					2400			
Ser	Lys	His	Lys	Met	Ser	Tyr	Ser	Gly	Arg	Val	Lys	Thr	Leu	Cys
2405						2410					2415			
Leu	Gln	Lys	Asn	Thr	Ala	Leu	Trp	Ile	Gly	Thr	Gly	Gly	Gly	His
2420						2425					2430			
Ile	Leu	Leu	Leu	Asp	Leu	Ser	Thr	Arg	Arg	Leu	Ile	Arg	Val	Ile
2435						2440					2445			

Tyr Asn Phe Cys Asn Ser Val Arg Val Met Met Thr Ala Gln Leu  
 2450 2455 2460

Gly Ser Leu Lys Asn Val Met Leu Val Leu Gly Tyr Asn Arg Lys  
 2465 2470 2475

Asn Thr Glu Gly Thr Gln Lys Gln Lys Glu Ile Gln Ser Cys Leu  
 2480 2485 2490

Thr Val Trp Asp Ile Asn Leu Pro His Glu Val Gln Asn Leu Glu  
 2495 2500 2505

Lys His Ile Glu Val Arg Lys Glu Leu Ala Glu Lys Met Arg Arg  
 2510 2515 2520

Thr Ser Val Glu  
 2525

<210> 2  
 <211> 7584  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (6055)..(6055)  
 <223> n may be a, c or t.

<220>  
 <221> misc\_feature  
 <222> (5457)..(5457)  
 <223> n may be c or t.

<220>  
 <221> misc\_feature  
 <222> (5096)..(5096)  
 <223> n may be a or g.

<220>  
 <221> misc\_feature  
 <222> (4321)..(4321)  
 <223> n may be c or t.

<220>  
 <221> misc\_feature  
 <222> (3364)..(3364)  
 <223> n may be a or g.

<220>  
 <221> misc\_feature

<222> (149)..(149)  
 <223> n may be a or g.

<300>  
 <308> Genbank / AY792511  
 <309> 2004-11-15  
 <313> (1)..(7584)

<400> 2  
 atgggctagtgc gcagctgtca ggggtgcgaa gaggacgagg aaactctgaa gaagttgata 60  
 gtcaggctga acaatgtcca ggaaggaaaa cagatagaaa cgctgggtcca aatcctggag 120  
 gatctgctgg tgttcacgta ctccgagcnc gcctccaagt tatttcaagg caaaaatatac 180  
 catgtgectc tgttgatcgt cttggactcc tatatgagag tcgcgagtgt gcagcagggtg 240  
 ggttgggtcac ttctgtgcaa attaatagaa gtctgtccag gtacaatgca aagcttaatg 300  
 ggaccccagg atgttggaat tgattgggaa gtccttgggtg ttcaccaatt gattcttaaa 360  
 atgctaacag ttcataatgc cagtgtaaac ttgtcagtga ttggactgaa gaccttagat 420  
 ctctctctaa cttcaggtaa aatcaccttg ctgatactgg atgaagaaag tgatattttc 480  
 atgttaattt ttgatgccat gcactcattt ccagccaatg atgaagtcca gaaacttga 540  
 tgcaaagctt tacatgtgct gtttgagaga gtctcagagg agcaactgac tgaatttgtt 600  
 gagaacaaag attatatgat attgttaagt gcgtcaacaa attttaaaaga tgaagaggaa 660  
 attgtgcttc atgtgctgca ttgtttacat tccctagcga ttccttgcaa taatgtggaa 720  
 gtctcatga gtggcaatgt caggtgttat aatattgttg tggaagctat gaaagcattc 780  
 cctatgagtgc aaagaattca agaagtgagt tgctgtttgc tccataggct tacattaggt 840  
 aattttttca atatcctggt attaaacgaa gtccatgagt ttgtgggtgaa agctgtgcag 900  
 cagtaccag agaatgcagc attgcagatc tcagcgtca gctgtttggc cctcctcact 960  
 gagactatct tcttaaatca agatttagag gaaaagaatg agaatcaaga gaatgatgat 1020  
 gagggggaag aagataaatt gttttggctg gaagcctgtt acaaagcatt aacgtggcat 1080  
 agaaagaaca agcacgtgca ggaggccgca tgctgggcac taaataatct ccttatgtac 1140  
 caaacagtt tacatgagaa gattggagat gaagatggcc atttcccagc tcatagggaa 1200  
 gtgatgctct ccatgctgat gcattcttca tcaaaggaag ttttccaggc atctgcgaat 1260  
 gcattgtcaa ctctcttaga acaaaatggt aatttcagaa aaatactgtt atcaaaagga 1320  
 atacacctga atgttttgga gttaatgcag aagcatatac attctcctga agtggctgaa 1380  
 agtggctgta aaatgctaaa tcactttttt gaaggaagca acacttcctt ggatataatg 1440  
 gcagcagtgg tccccaaaat actaacagtt atgaaacgtc atgagacatc attaccagtg 1500  
 cagctggagg cgcttcgagc tattttacat tttatagtgc ctggcatgcc agaagaatcc 1560

agggaggata cagaatttca tcataagcta aatatgggta aaaaacagtg tttcaagaat	1620
gatattcaca aactggctct agcagctttg aacagggttca ttggaaatcc tgggattcag	1680
aaatgtggat taaaagtaat ttcttctatt gtacattttc ctgatgcatt agagatgtta	1740
tccctggaag gtgctatgga ttcagtgcct cacacactgc agatgtatcc agatgaccaa	1800
gaaattcagt gtctggggtt aagtcttata ggatacttga ttacaaagaa gaatgtgttc	1860
ataggaactg gacatctgct ggcaaaaatt ctgggtttcca gcttataaccg atttaaggat	1920
gttgctgaaa tacagactaa aggatttcag acaatcttag caatcctcaa attgtcagca	1980
tctttttcta agctgctggg gcatcattca tttgacttag taatattcca tcaaagtctt	2040
tccaatatca tggacaacaa ggatcaacag tttctaaacc tctgttgcaa gtgttttgca	2100
aaagtagcta tggatgatta cttaaaaaat gtgatgctag agagagcgtg tgatcagaat	2160
aacagcatca tgggtgaatg cttgcttcta ttgggagcag atgccaatca agcaaaggag	2220
ggatcttctt taatttgta ggtatgtgag aaagagagca gtcccaaatt ggtggaactc	2280
ttactgaata gtggatctcg tgaacaagat gtacgaaaag cgttgacgat aagcattggg	2340
aaaggtgaca gccagatcat cagcttgctc ttaaggaggc tggccctgga tgtggccaac	2400
aatagcattt gccttgaggg attttgtata ggaaaagtgt aaccttcttg gcttggctct	2460
ttattttcag ataagacttc taatttaagg aaacaaacaa atatagcatc tacactagca	2520
agaatggtga tcagatatca gatgaaaagt gctgtggaag aaggaaacagc ctcaggcagc	2580
gatggaaatt tttctgaaga tgtgctgtct aaatttgatg aatggacctt tattcctgac	2640
tcttctatgg acagtgtgtt tgctcaaagt gatgacctgg atagtgaagg aagtgaaggc	2700
tcatttcttg tgaaaaagaa atctaattca attagtgtag gagaatttta ccgagatgcc	2760
gtattacagc gttgctcacc aaatttgcaa agacattcca attccttggg gcccatTTTT	2820
gatcatgaag atttactgaa gcgaaaaaga aaaatactat cttcagatga ttcactcagg	2880
tcatcaaac ttcaatcca tatgaggcat tcagacagca tttcttctct ggcttctgag	2940
agagaatata ttacatcact agacctttca gcaaatgaac taagagatat tgatgcccta	3000
agccagaaat gctgtataag tgttcatttg gagcatcttg aaaagctgga gcttcaccag	3060
aatgcactca cgagctttcc acaacagcta tgtgaaactc tgaagagttt gacacatttg	3120
gacttgcaca gtaataaatt tacatcattt ctttcttatt tgttgaaaat gagttgtatt	3180
gctaactctg atgtctctcg aaatgacatt ggaccctcag tggttttaga tcctacagt	3240
aaatgtccaa ctctgaaaca gtttaacctg tcatataacc agctgtcttt tgtacctgag	3300
aacctcactg atgtggtaga gaaactggag cagctcattt tagaaggaaa taaaatatca	3360

gggntatgct	cccccttgag	actgaaggaa	ctgaagattt	taaaccttag	taagaaccac	3420
atttcatecc	tatcagagaa	ctttcttgag	gcttgtccta	aagtggagag	tttcagtgcc	3480
agaatgaatt	ttcttgctgc	tatgcctttc	ttgcctcctt	ctatgacaat	cctaaaatta	3540
tctcagaaca	aattttcctg	tattccagaa	gcaattttta	atcttccaca	cttgcggtct	3600
ttagatatga	gcagcaatga	tattcagtac	ctaccaggtc	ccgcacactg	gaaatctttg	3660
aacttaaggg	aactcttatt	tagccataat	cagatcagca	tcttggactt	gagtgaaaaa	3720
gcataattat	ggtctagagt	agagaaactg	catctttctc	acaataaact	gaaagagatt	3780
cctcctgaga	ttggctgtct	tgaaaatctg	acatctctgg	atgtcagtta	caacttggaa	3840
ctaagatcct	ttcccaatga	aatggggaaa	ttaagcaaaa	tatgggatct	tcctttggat	3900
gaactgcata	ttaactttga	ttttaaacat	ataggatgta	aagccaaaga	catcataagg	3960
tttcttcaac	agcgattaaa	aaaggctgtg	ccttataacc	gaatgaaact	tatgattgtg	4020
ggaaatactg	ggagtggtaa	aaccacctta	ttgcagcaat	taatgaaaac	caagaaatca	4080
gatcttggaa	tgcaaagtgc	cacagttggc	atagatgtga	aagactggcc	tatccaaata	4140
agagacaaaa	gaaagagaga	tctcgtccta	aatgtgtggg	atthtgcagg	tcgtgaggaa	4200
ttctatatga	ctcatcccca	ttttatgacg	cagcgagcat	tgtaccttgc	tgtctatgac	4260
ctcagcaagg	gacaggctga	agttgatgcc	atgaagcctt	ggctcttcaa	tataaaggct	4320
ngcgttctt	cttccctgt	gattctcggt	ggcacacatt	tggatgtttc	tgatgagaag	4380
caacgcaaag	cctgcatgag	taaaatcacc	aaggaaactcc	tgaataagcg	agggttccct	4440
gccatacgag	attaccactt	tgtgaatgcc	accgaggaat	ctgatgcttt	ggcaaaaactt	4500
cggaaaacca	tcataaacga	gagccttaat	ttcaagatcc	gagatcagct	tgttggttga	4560
cagctgattc	cagactgcta	tgtagaactt	gaaaaaatca	ttttatcgga	gcgtaaaaat	4620
gtgccaatg	aatttcccg	aattgaccgg	aaacgattat	tacaactagt	gagagaaaat	4680
cagctgcagt	tagatgaaaa	tgagcttcct	cagcgagttc	actttctaaa	tgaatcagga	4740
gtccttcttc	atthtcaaga	cccagcactg	cagtttaagt	acttgactt	tgtggaaccc	4800
aagtggcttt	gtaaaatcat	ggcacagatt	ttgacagtga	aagtggaagg	ttgtccaaaa	4860
caccctaagg	gcattatttc	gcgtagagat	gtggaaaaat	ttctttcaaa	aaaaaggaaa	4920
tttccaaaga	actacatgtc	acagtatttt	aagtccttag	aaaaattcca	gattgctttg	4980
ccaataggag	agaatatatt	gctggttcca	agcagtttgt	ctgaccacag	gcctgtgata	5040
gagcttcccc	attgtgagaa	ctctgaaatt	atcatccgac	tatatgaaat	gccttntttt	5100
ccaatgggat	tttggtaag	attaatcaat	cgattacttg	agatttcacc	ttacatgctt	5160
tcaggggagag	aacgagcact	tcgccccaac	agaatgtatt	ggcgacaagg	catttactta	5220

aattggtctc ctgaagctta ttgtctggta ggatctgaag tcttagacaa tcatccagag	5280
agtttcttaa aaattacagt tccttcttgt agaaaaggct gtattctttt gggccaagtt	5340
gtggaccaca ttgattctct catggaagaa tggtttcctg ggttgctgga gattgatatt	5400
tgtggtgaag gagaaactct gttgaagaaa tgggcattat atagttttaa tgatggngaa	5460
gaacatcaaa aaatcttact tgatgacttg atgaagaaag cagaggaagg agatctctta	5520
gtaaatccag atcaaccaag gctcaccatt ccaatatctc agattgcccc tgacttgatt	5580
ttggctgacc tgccatagaaa tattatgttg aataatgatg agttggaatt tgaacaagct	5640
ccagagtttc tcctaggtaga tggcagtttt ggatcagttt accgagcagc ctatgaagga	5700
gaagaagtgg ctgtgaagat ttttaataaa catacatcac tcaggctggt aagacaagag	5760
cttgtggtgc tttgccacct ccaccacccc agtttgatat ctttgctggc agctgggatt	5820
cgtccccgga tgttggtgat ggagttagcc tccaagggtt ccttggatec cctgcttcag	5880
caggacaaag ccagcctcac tagaacccta cagcacagga ttgcactcca cgtagctgat	5940
ggtttgagat acctccactc agccatgatt atataccgag acctgaaacc ccacaatgtg	6000
ctgcttttca cactgtatcc caatgctgcc atcattgcaa agattgctga ctacngcatt	6060
gctcagtact gctgtagaat ggggataaaa acatcagagg gcacaccagg gtttcgtgca	6120
cctgaagttg ccagaggaaa tgtcatttat aaccaacagg ctgatgttta ttcatttggt	6180
ttactactct atgacatttt gacaactgga ggtagaatag tagaggggtt gaagtttcca	6240
aatgagtttg atgaattaga aatacaagga aaattacctg atccagttaa agaatatggt	6300
tgtgccccat ggcctatggt tgagaaatta attaaacagt gtttgaaaga aaatcctcaa	6360
gaaaggccta cttctgccca ggtctttgac attttgaatt cagctgaatt agtctgtctg	6420
acgagacgca ttttattacc taaaaacgta attgttgaat gcatggttgc tacacatcac	6480
aacagcagga atgcaagcat ttggctgggc tgtgggcaca ccgacagagg acagctctca	6540
tttcttgact taaatactga aggatacact tctgaggaag ttgctgatag tagaatattg	6600
tgcttagcct tgggtgcatc tcctgttgaa aaggaaagct ggattgtgtc tgggacacag	6660
tctggtactc tcctggtcac caataccgaa gatgggaaaa agagacatac cctagaaaaag	6720
atgactgatt ctgtcacttg tttgtattgc aattcctttt ccaagcaaag caaacaaaaa	6780
aattttcttt tggttggaac cgctgatggc aagttagcaa tttttgaaga taagactgtt	6840
aagcttaaag gagctgctcc tttgaagata ctaaatatag gaaatgtcag tactccattg	6900
atgtgtttga gtgaatccac aaattcaacg gaaagaaatg taatgtgggg aggatgtggc	6960
acaagattt tctccttttc taatgatttc accattcaga aactcattga gacaagaaca	7020



agccaactgt tttcttatgc agctttcagt gattccaaca tcataacagt ggtggtagac 7080  
 actgctctct atattgctaa gcaaaatagc cctgttggtg aagtgtggga taagaaaact 7140  
 gaaaaactct gtggactaat agactgctg cactttttta gggaggtaat ggtaaaagaa 7200  
 aacaaggat caaaacacaa aatgtcttat tctgggagag tgaaaaccct ctgccttcag 7260  
 aagaacactg ctctttggat aggaactgga ggaggccata ttttactcct ggatctttca 7320  
 actcgtcgac ttatacgtgt aatttacaac ttttgtaatt cggtcagagt catgatgaca 7380  
 gcacagctag gaagccttaa aaatgtcatg ctggtattgg gctacaaccg gaaaaatact 7440  
 gaaggtacac aaaagcagaa agagatacaa tcttgcttga ccgtttggga catcaatctt 7500  
 ccacatgaag tgcaaaattt agaaaaacac attgaagtga gaaaagaatt agctgaaaaa 7560  
 atgagacgaa catctgttga gtaa 7584

